CLAIMS

1.   A method for synchronizing the phase of a code
     available at a receiving unit with the phase of a
5        corresponding code of which samples are received at
     said receiving unit, which synchronization comprises
     comparing a received code sample with different
     samples of said available code, the respective sample
     of said available code being shifted in phase for
10       each comparison by a predetermined amount until a
     correspondence with said received code sample is
     determined or until an interrupt of said
     synchronization occurs, wherein said synchronization
     is continued after an interrupt with a newly received
15       code sample and with available code samples
     proceeding from the code phase of said available code
     reached in said synchronization before said
     interrupt.

20  2.   A method according to claim 1, wherein a specific
     code phase of the available code is determined after
     an interrupt by shifting the available code employed
     before the interrupt by an amount corresponding to
     the time elapsed between the time of reception of the
25       last code sample before said interrupt and the time
     of reception of the new code sample after said
     interrupt.

3.   A method according to claim 2, wherein said
30       synchronization is equally ended when a comparison
     has been carried out without success for all code
     phases that can be reached with predetermined shifts.

4. A method according to claim 3, wherein said code phase of said available code is shifted by a predetermined amount until code samples spanning the entire code have been checked, and wherein, in case no correspondence between a received code sample and an available code sample is determined with the resulting code phases, said code phase is shifted once by a different predetermined amount for further comparisons.

5. A method according to claim 4, wherein said code samples are received at said receiving unit by a communication network in form of a pilot signal during an Idle Period, Down Link (IPDL).

6. A method according to claim 5, wherein a received code sample is stored in a dedicated random access memory (RAM), from which it is retrieved for said synchronization calculations.

7. A method according to claim 6, wherein said comparison is carried out by a matched filter performing correlation calculations on a respective pair of received and available code samples.

8. A receiving unit comprising:
   - means for providing an available code;
   - means for receiving samples of a code via the air interface; and
   - means for synchronizing the phase of the available code with the phase of a code of which samples are

received by said means for receiving code samples
via the air interface according to the method of
claim 1.

5   9.  A receiving unit according to claim 8, which is a
location measurement unit (LMU) for a location
system.

10. A mobile communication system comprising a
10      transmitting unit for transmitting a coded signal and
a receiving unit according to claim 8.

11. A mobile communication system according to claim 10,
which is a wideband code division multiple access
15      (WCDMA) system.

12. A method according to claim 1, wherein said
synchronization is equally ended when a comparison
has been carried out without success for all code
20      phases that can be reached with predetermined shifts.

13. A method according to claim 1, wherein said code
phase of said available code is shifted by a
predetermined amount until code samples spanning the
25      entire code have been checked, and wherein, in case
no correspondence between a received code sample and
an available code sample is determined with the
resulting code phases, said code phase is shifted
once by a different predetermined amount for further
30      comparisons.

14. A method according to claim 1, wherein said code samples are received at said receiving unit by a communication network in form of a pilot signal during an Idle Period, Down Link (IPDL).

5

15. A method according to claim 1, wherein a received code sample is stored in a dedicated random access memory (RAM), from which it is retrieved for said synchronization calculations.

10

16. A method according to claim 1, wherein said comparison is carried out by a matched filter performing correlation calculations on a respective pair of received and available code samples.

15